

AMENDMENTS TO THE CLAIMS

CLAIM 1 (CURRENTLY AMENDED): A bicycle charge control circuit for receiving electric power from a bicycle dynamo and for controlling the operation of a lamp and a charging circuit, the circuit comprising:

a first lamp switch for selectively providing power from the dynamo to the lamp;

a battery charged by the dynamo; and

a lamp control circuit operatively coupled to the first lamp switch and to the battery to control the first lamp switch to intermittently supply power to the lamp when from the dynamo while the battery voltage is below a selected value so that the lamp is illuminated while the battery voltage is below the selected value and the dynamo is intermittently supplying power.

CLAIM 2 (ORIGINAL): The circuit according to claim 1 further comprising a rectifier that rectifies power from the dynamo to the battery.

CLAIM 3 (ORIGINAL): The circuit according to claim 2 wherein the lamp control circuit controls the first lamp switch to supply power to the lamp at intervals approximately equal to half-cycles of the output voltage of the dynamo.

CLAIM 4 (ORIGINAL): The circuit according to claim 1 further comprising:

a charging switch for selectively providing power from the dynamo to the battery; and

a charging switch control circuit that controls the operation of the charging switch.

CLAIM 5 (PREVIOUSLY PRESENTED): The circuit according to claim 4 wherein the charging switch comprises a charging transistor, and wherein the charging switch control circuit comprises:

a first capacitor charged by current output by the dynamo during one of a positive half-cycle and a negative half-cycle thereof; and

a second capacitor charged by current output by the dynamo during the other one of the positive half cycle and the negative half-cycle thereof as well as by current from the first capacitor;

wherein voltage from at least one of the first and second capacitors is applied to a control terminal of the charging transistor.

CLAIM 6 (PREVIOUSLY PRESENTED): The circuit according to claim 5 wherein the first capacitor is charged by current output by the dynamo during the positive half-cycle thereof, and wherein the second capacitor is charged by current output by the dynamo during the negative half-cycle thereof as well as current from the first capacitor.

CLAIM 7 (PREVIOUSLY PRESENTED): The circuit according to claim 1 wherein the battery comprises a battery capacitor.

CLAIM 8 (ORIGINAL): The circuit according to claim 1 wherein the first lamp switch comprises a first lamp transistor.

CLAIM 9 (PREVIOUSLY PRESENTED): The circuit according to claim 8 further comprising a second lamp transistor connected in series with the first lamp transistor, and wherein the lamp control circuit controls the second lamp transistor based on a voltage of the battery.

CLAIM 10 (PREVIOUSLY PRESENTED): A bicycle charge control circuit for receiving electric power from a bicycle dynamo and for controlling the operation of a lamp and a charging circuit, the circuit comprising:

a lamp switch for selectively providing power from the dynamo to the lamp;

a battery charged by the dynamo; and

a lamp control circuit operatively coupled to the lamp switch and to the battery to control the lamp switch to intermittently supply power to the lamp when a battery voltage is below a selected value, wherein the lamp control circuit comprises:

a first capacitor;

a first diode coupled for communicating power from the dynamo to the first capacitor during one of a positive half-cycle and a negative half-cycle of the dynamo;

a second capacitor; and

a second diode coupled for communicating power from the dynamo to the second capacitor during the other one of the positive half-cycle and the negative half-cycle of the

dynamo as well as current from the first capacitor.

CLAIM 11 (PREVIOUSLY PRESENTED): A bicycle charge control circuit for receiving electric power from a bicycle dynamo and for controlling the operation of a lamp and a charging circuit, the circuit comprising:

a lamp switch for selectively providing power from the dynamo to the lamp;

a battery charged by the dynamo; and

a lamp control circuit operatively coupled to the lamp switch and to the battery to control the lamp switch to intermittently supply power to the lamp when a battery voltage is below a selected value, wherein the lamp control circuit comprises:

a first capacitor;

a first diode coupled for communicating power from the dynamo to the first capacitor during one of a positive half-cycle and a negative half-cycle of the dynamo;

a second capacitor;

a second diode coupled for communicating power from the dynamo to the second capacitor during the other one of the positive half-cycle and the negative half-cycle of the dynamo as well as current from the first capacitor; and

wherein the battery comprises a third capacitor.

CLAIM 12 (PREVIOUSLY PRESENTED): The circuit according to claim 11 further comprising a first transistor for selectively providing power from the dynamo to the battery, wherein voltage from at least one of the first and second capacitors is applied to a control terminal of the first transistor.

CLAIM 13 (PREVIOUSLY PRESENTED): The circuit according to claim 12 wherein the lamp switch comprises a second transistor having a control terminal coupled for receiving a voltage from the second capacitor.

CLAIM 14 (ORIGINAL): The circuit according to claim 13 wherein the lamp switch comprises a third transistor coupled in series with the second transistor, wherein the third transistor

has a control terminal coupled to the lamp control circuit so that the third transistor is turned on when the battery voltage is above the selected value.

CLAIM 15 (ORIGINAL): The circuit according to claim 14 further comprising a third diode for rectifying power from the dynamo to the battery.

CLAIM 16 (ORIGINAL): The circuit according to claim 15 further comprising a fourth diode coupled in parallel with the third transistor for allowing current to flow to the lamp during one of the positive half-cycle and the negative half-cycle of the dynamo.

CLAIM 17 (ORIGINAL): The circuit according to claim 16 further comprising a fifth diode coupled in parallel with the second transistor.